

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Final Office Action dated January 6, 2010 has been received and its contents carefully reviewed.

Claim 1 has been amended. Claims 1, 4-9, 12-19, 21-28 are pending in the present application, of which claims 6, 8, 16 and 21-28 are withdrawn as the result of an earlier restriction requirement. Reexamination and reconsideration of the pending claims is respectfully requested.

In the Office Action, the disclosure is objected to because of the informalities. Claims 1, 4, 5, 7, 9 and 11-14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. (Oh) USPAT 6,130,729 in view of Liu et al. (Liu) USPAT 6,573,965, Von Gutfeld et al. (Von Gutfeld) USPAT 6,055,035), Kishimoto et al. (Kishimoto) USPAT 6,515,718, Takeda et al. (Takeda) USPAT 7,224,421), Lien USPAT 5,907,380, Abe USPAT 5,511,591), Sasaki USPGPUB 2001/0004281 and further in view of Inoue et al. (Inoue) USPAT 7,136,140 ; claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki, and Inoue in view of Tanaka et al. (Tanaka) USPAT 6,603,528; and claims 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki, and Inoue in view of Kim et al. (Kim) USPAT 6,100,953.

The rejection of claims 1, 4, 5, 7, 9 and 11-14 under 35 U.S.C. § 103(a) as being unpatentable over Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki and in view of Inoue is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, “dispensing a plurality of droplets of liquid crystal on the first substrate having no dielectric frame”; “wherein a height difference between the first height and the second height is more than 1 μm so that the height difference between the sealant structure and dielectric frame prevent the generation of bubble in liquid crystal, allows the dispensed liquid crystal to be uniformly distributed and not to hinder the dispensed liquid crystal from being moved and uniformly distributed between the first substrate and the second substrate, wherein the first height the dielectric frame is a range of 1-2 μm and the

second height of the sealant structure is in a range of 5-8 μm "; and "wherein the second height of the sealant structure is proportional to the first height of the dielectric frame." None of the cited references, singly or in combination, teaches or suggests at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claim 1 and claims 4, 5, 7, 9 and 11-14, which depend therefrom, are allowable over the cited references.

In particular, claim 1 discloses a first feature of "dispensing a plurality of droplets of liquid crystal on the first substrate having no dielectric frame." However, Liu discloses that the bumps 309 to 312 and 407 to 409 (corresponding to the dielectric frames) are formed on both the lower and upper substrates 301 and 401. Takeda discloses that the protrusions 20A and 20B (corresponding to the dielectric frames) are formed on both the lower and upper substrates 12 and 13. Therefore, Liu and Takeda only disclose the bumps (protrusions) are formed on both the lower and upper substrates and fail to teach the first and second features in claim 1. Oh, Von Gutfeld, Kishimoto, Lien, Abe and Sasaki basically fail to teach the first feature of the claim 1. Accordingly, although the teachings of Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, and Sasaki were combined, as suggested in the Office Action, the bumps (protrusions) of Liu and Takeda, as also discussed with regard to the related art, paragraph [0021] of the present application, would "hinder the movement of the liquid crystal". Inoue discloses to use a substrate with protrusions on a color filter side but fails to disclose dispensing a plurality of droplets of liquid crystal on the first substrate having no protrusion as claimed.

Claim 1 discloses a second feature that "a height difference between the first height and the second height is more than 1 μm so that the height difference between the sealant structure and dielectric frame prevent the generation of bubble in liquid crystal, allows the dispensed liquid crystal to be uniformly distributed and not to hinder the dispensed liquid crystal from being moved and uniformly distributed between the first substrate and the second substrate, wherein the first height the dielectric frame is a range of 1-2 μm and the second height of the sealant structure is in a range of 5-8 μm ." However, Takeda discloses that a cell gap is 3.5 μm and a height of upper and lower protrusions is 1.5 μm but fails to disclose the second feature of the claimed invention. Oh, Liu, Von Gutfeld, Kishimoto, Lien, Abe, Sasaki, and Inoue basically fail to teach the second feature of the claim 1.

Claim 1 discloses a third feature that “the second height of the sealant structure is proportional to the first height of the dielectric frame.” None of the cited references, singly or in combination, teaches or suggests the third feature of the claimed invention.

As discussed above, no combination of Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki and Inoue would provide a method of forming a LCD having the combined features of the present invention. Reconsideration and withdrawal of the rejection are respectfully requested.

The rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki, Inoue and in view of Tanaka is respectfully traversed and reconsideration is requested. Because Tanaka fails to cure the deficient teaching of Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki and Inoue claim 15 is allowable over the cited references.

The rejection of claims 17-19 under 35 U.S.C. § 103(a) as being unpatentable over Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki, Inoue and in view of Kim is respectfully traversed and reconsideration is requested. Because Kim fails to cure the deficient teaching of fails to cure the deficient teaching of Oh, Liu, Von Gutfeld, Kishimoto, Takeda, Lien, Abe, Sasaki, and Inoue claims 17-19 are allowable over the cited references.

Applicants believe the application is in condition for allowance and early, favorable action is respectfully solicited.

If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

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Respectfully submitted,

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